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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/368,354	08/05/1999	ROBERT R. BUCKLEY	103044	5438

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OLIFF & BERRIDGE PLC  
P.O. BOX 19928  
ALEXANDRIA, VA 22320

EXAMINER

POKRZYWA, JOSEPH R

ART UNIT	PAPER NUMBER
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2622

DATE MAILED: 03/09/2004

21

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/368,354

Applicant(s)

BUCKLEY ET AL.

Examiner

Joseph R. Pokrzywa

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date 21.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's amendment was received on 12/31/03, and has been entered and made of record. Currently, **claims 1-22** are pending.

### *Response to Arguments*

2. Applicant's arguments with respect to **claims 1 and 10** have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1-8, 10-17, 19, and 22** are rejected under 35 U.S.C. 102(e) as being anticipated by Bloomberg *et al.* (U.S. Patent Number 5,960,161).

Regarding **claim 1**, Bloomberg discloses a method of processing image data of a color image for marking (see abstract, and column 3, lines 7 through 62), the color image containing overmarked pixels where at least one first color is to be overmarked by a second color (column 3, lines 7 through 62), the method comprising generating information that designates the

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overmarked pixels (column 5, line 25 through column 6, line 16, whereby an overmarked pixel is designated when there are simultaneous generated inputs of a "1" into the converter 14 for at least two of the input CMYK separation signals for each pixel area), performing raster image processing to create a raster image of the color image (see abstract, and column 4, lines 9 through 52), the raster image processing including overmarking processing that allows both the at least one first color and the second color to be separately included in the overmarked pixels in the same raster image (column 3, lines 7 through 62, and column 4, lines 18 through 35, being the output of raster image processor 12, which are four image separations corresponding to cyan, magenta, yellow, and pure black), and modifying image data of the overmarked pixels in the raster image to achieve undercolor reduction (column 4, line 36 through column 5, line 65).

Regarding *claim 2*, Bloomberg discloses the method discussed above in claim 1, and further teaches that the modifying the image data of the overmarked pixels comprises modifying image data corresponding to the at least one first color (column 3, lines 7 through 62, and column 4, line 36 through column 5, line 65).

Regarding *claim 3*, Bloomberg discloses the method discussed above in claim 1, and further teaches of outputting the raster image, including the modified image data, to a marking driver (printhead 16, column 5, lines 4 through 65).

Regarding *claim 4*, Bloomberg discloses the method discussed above in claim 1, and further teaches that the modifying image data of the overmarked pixels comprises modifying a value of the image data corresponding to the at least one first color (column 4, line 36 through 52, and column 5, line 42 through column 6, line 43).

Regarding *claim 5*, Bloomberg discloses the method discussed above in claim 4, and further teaches that the modified value of the image data corresponding to the at least one first color results in a reduced amount of marking material corresponding to the at least one first color being applied to a marking substrate (column 4, line 36 through 52, and column 5, line 42 through column 6, line 43).

Regarding *claim 6*, Bloomberg discloses the method discussed above in claim 1, and further teaches that the generating information that designates the overmarked pixels comprises generating tags that correspond to the overmarked pixels (column 5, line 25 through column 6, line 16, whereby the binary “1” in two of the separation signals is considered as a “generated tag”, which corresponds to a overmarked pixel).

Regarding *claim 7*, Bloomberg discloses the method discussed above in claim 6, and further teaches that the overmarked pixels correspond to a black image and the tags indicate that the overmarked pixels are black image pixels (column 5, line 66 through column 6, line 62).

Regarding *claim 8*, Bloomberg discloses the method discussed above in claim 6, and further teaches that the overmarked pixels correspond to one of black text and a black stroke, and the tags indicate that the overmarked pixels are one of black text pixels and black stroke pixels (column 4, lines 9 through 64, and column 5, line 66 through column 6, line 62).

Regarding *claim 10*, Bloomberg discloses a system that processes image data of a color image for marking (see abstract, and column 3, lines 7 through 62), the color image containing overmarked pixels where at least one first color is to be overmarked by a second color (column 3, lines 7 through 62), the system comprising an overmarked pixel designator (raster image processor 12) that generates information that designates the overmarked pixels (column 5, line

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25 through column 6, line 16, whereby an overmarked pixel is designated when there are simultaneous generated inputs of a "1" into the converter 14 for at least two of the input CMYK separation signals for each pixel area), a raster image processor (raster image processor 12) that creates a raster image of the color image (see abstract, and column 4, lines 9 through 52), the raster image processor provided with an overmark function that allows both the at least one first color and the second color to be separately included in the overmarked pixels of the same raster image (column 3, lines 7 through 62, and column 4, lines 18 through 35, being the output of raster image processor 12, which are four image separations corresponding to cyan, magenta, yellow, and pure black), and an image data modification unit (converter 14) that modifies image data of the overmarked pixels in the raster image to achieve undercolor reduction (column 4, line 36 through column 5, line 65).

Regarding *claim 11*, Bloomberg discloses the system discussed above in claim 10, and further teaches that the modified image data is image data corresponding to the at least one first color (column 3, lines 7 through 62, and column 4, line 36 through column 5, line 65).

Regarding *claim 12*, Bloomberg discloses the system discussed above in claim 10, and further teaches of a marking driver that performs marking according to the raster image, including the modified image data (printhead 16, column 5, lines 4 through 65).

Regarding *claim 13*, Bloomberg discloses the system discussed above in claim 10, and further teaches that the image data modification unit modifies a value of the image data corresponding to the at least one first color (column 4, line 36 through 52, and column 5, line 42 through column 6, line 43).

Regarding *claim 14*, Bloomberg discloses the system discussed above in claim 13, and further teaches of a marking driver that performs marking according to the raster image that includes the modified image data, wherein the marking driver marks a reduced amount of marking material corresponding to the at least one first color being applied to a marking substrate based on the modified value of the image data corresponding to the at least one first color (column 4, line 36 through 52, and column 5, line 42 through column 6, line 43).

Regarding *claim 15*, Bloomberg discloses the system discussed above in claim 10, and further teaches that the overmarked pixel designator comprises a tag generator that generates tags that correspond to the overmarked pixels (column 5, line 25 through column 6, line 16, whereby the binary “1” in two of the separation signals is considered as a “generated tag”, which corresponds to a overmarked pixel).

Regarding *claim 16*, Bloomberg discloses the system discussed above in claim 15, and further teaches that the overmarked pixels correspond to a black image and the tags indicate that the overmarked pixels are black image pixels (column 5, line 66 through column 6, line 62).

Regarding *claim 17*, Bloomberg discloses the system discussed above in claim 15, and further teaches that the overmarked pixels correspond to one of black text and a black stroke, and the tags indicate that the overmarked pixels are one of black text pixels and black stroke pixels (column 4, lines 9 through 64, and column 5, line 66 through column 6, line 62).

Regarding *claim 19*, Bloomberg discloses a printer incorporating the system set forth in claim 10 (column 1, lines 6 through 11).

Regarding *claim 22*, Bloomberg discloses a storage medium (buffering device 30) on which is stored data that has been processed according to the method set forth in claim 1 (column 5, lines 21 through 24, and column 7, lines 5 through 25).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 9, 18, 20, and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bloomberg *et al.* (U.S. Patent Number 5,960,161) in view of Miller *et al.* (U.S. Patent Number 5,731,823).

Regarding *claim 9*, Bloomberg discloses the method discussed above in claim 1, but fails to particularly teach if the generating information that designates the overmarked pixels comprises performing pattern recognition that recognizes specified patterns, and designating pixels that form the recognized patterns as the overmarked pixels. Miller discloses a method of processing image data of a color image for marking (see abstract), the color image containing overmarked pixels where at least one first color is to be overmarked by a second color (column 6, lines 25 through 52), the method comprising generating information that designates the overmarked pixels (column 3, lines 35 through 50, and column 6, line 25 through column 7, line 13), performing raster image processing to create a raster image of the color image (column 5, lines 33 through 43, and column 7, lines 14 through 21), and modifying image data of the



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overmarked pixels in the raster image (column 5, lines 44 through 67, and column 7, lines 21 through 64). Further, Miller teaches that the generating information that designates the overmarked pixels comprises performing pattern recognition that recognizes specified patterns (see abstract, column 3, lines 35 through 65), and designating pixels that form the recognized patterns as the overmarked pixels (column 6, line 25 through column 7, line 54). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the teachings of Miller in the system of Bloomberg. Bloomberg's system would easily be modified to include the teachings of Miller, as the systems share cumulative features, being additive in nature.

Regarding *claim 18*, Bloomberg discloses the system discussed above in claim 10, but fails to particularly teach if the overmarked pixel designator comprises a pattern recognition device that recognizes specified patterns and designates pixels that form the recognized patterns as the overmarked pixels. Miller discloses a system that processes image data of a color image for marking (see abstract), the color image containing overmarked pixels where at least one first color is to be overmarked by a second color (column 6, lines 25 through 52), the system comprising an overmarked pixel designator that generates information that designates the overmarked pixels (column 3, lines 35 through 50, and column 6, line 25 through column 7, line 13), a raster image processor that creates a raster image of the color image (column 5, lines 33 through 43, and column 7, lines 14 through 21), and an image data modification unit that modifies image data of the overmarked pixels in the raster image (column 5, lines 44 through 67, and column 7, lines 21 through 64). Further, Miller teaches that the overmarked pixel designator comprises a pattern recognition device that recognizes specified patterns (see abstract, column 3,

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lines 35 through 65) and designates pixels that form the recognized patterns as the overmarked pixels (column 6, line 25 through column 7, line 54). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the teachings of Miller in the system of Bloomberg. Bloomberg's system would easily be modified to include the teachings of Miller, as the systems share cumulative features, being additive in nature.

Regarding *claim 20*, Bloomberg discloses a printing apparatus incorporating the system set forth in claim 10 (see abstract), but fails to specifically teach if a digital copier incorporates the system. Miller discloses a system that processes image data of a color image for marking (see abstract), the color image containing overmarked pixels where at least one first color is to be overmarked by a second color (column 6, lines 25 through 52), the system comprising an overmarked pixel designator that generates information that designates the overmarked pixels (column 3, lines 35 through 50, and column 6, line 25 through column 7, line 13), a raster image processor that creates a raster image of the color image (column 5, lines 33 through 43, and column 7, lines 14 through 21), and an image data modification unit that modifies image data of the overmarked pixels in the raster image (column 5, lines 44 through 67, and column 7, lines 21 through 64). Further, Miller teaches of a digital copier incorporating the system set forth above (column 11, line 45 through column 12, line 6). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the teachings of Miller in the system of Bloomberg. Bloomberg's system would easily be modified to include the teachings of Miller, as the systems share cumulative features, being additive in nature.

Regarding *claim 21*, Bloomberg discloses hardware for implementing the method set forth in claim 1 (column 5, lines 25 through 41), but fails to particularly teach of a storage

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medium on which is stored a program that implements the method. Miller discloses a method of processing image data of a color image for marking (see abstract), the color image containing overmarked pixels where at least one first color is to be overmarked by a second color (column 6, lines 25 through 52), the method comprising generating information that designates the overmarked pixels (column 3, lines 35 through 50, and column 6, line 25 through column 7, line 13), performing raster image processing to create a raster image of the color image (column 5, lines 33 through 43, and column 7, lines 14 through 21), and modifying image data of the overmarked pixels in the raster image (column 5, lines 44 through 67, and column 7, lines 21 through 64). Further, Miller teaches of a storage medium on which is stored a program that implements the method set forth above (column 4, lines 42 through 60, and column 11, lines 31 through 51). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the teachings of Miller in the system of Bloomberg. Bloomberg's system would easily be modified to include the teachings of Miller, as the systems share cumulative features, being additive in nature.

### *Conclusion*

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

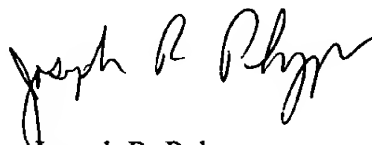
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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joe Pokrzywa whose telephone number is (703) 305-0146. The examiner can normally be reached on Monday-Friday, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on (703) 305-4712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joseph R. Pokrzywa  
Examiner  
Art Unit 2622

  
EDWARD COLES

SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600

jrp